

• **35 U.S.C. §103 Rejections**

Claims 1-6 and 9-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 6,267,656 B1, issued to Shendon on July 31, 2001 (hereinafter “Shendon”). Applicants traverse this rejection.

Shendon generally discloses a chemical mechanical polishing apparatus including a polishing surface that rotates or is maintained in a stationary position (column 4, line 15).

Shendon does not render obvious claim 1 or any of claims 2-6, 9-10 that depend therefrom because Shendon does not teach or suggest “a platen configured to orbit about an axis at a speed up to about 2000 revolutions per minute.” In particular, Shendon does not teach or suggest any platen configured to *orbit about an axis* or, as the Examiner acknowledges, a *rotation speed of up to about 2000 revolutions per minute*.

Claims 2-6 and 9-10 are additionally allowable over Shendon. Claim 2 is additionally allowable over Shendon because Shendon does not teach or suggest “the platen is configured to rotate at *about 1000 orbits per minute*.” Claim 3 is additionally allowable over Shendon because Shendon does not teach a platen “configured to dither.” Claim 4 is additionally allowable over Shendon, because, as the Examiner acknowledges, Shendon does not teach or suggest “an orbital radius of about 0.25 to about 1 inch.” Indeed, as noted above, Shendon does not teach any orbital motion of a polishing platen or a polishing surface. Claims 5 and 6 are additionally allowable over Shendon because, as the Examiner admits, Shendon does not teach or suggest a “platen...configured to move the workpiece relative to the polishing surface at a speed of about 0.8 to about 3.2 meters per second” as set forth in claim 5 or “the carrier is configured to apply about 0.25 to about 2 pounds per square inch pressure to the workpiece in the direction of the polishing surface” as set forth in claim 6.

The Examiner states that it would be obvious to one having ordinary skill in the art at the time the invention was made to provide the invention of Shendon with the additional limitations set forth in claims 2-6 and 9-10. Applicants disagree and submit that several of the additional limitations could not be combined with the teaching of Shendon because Shendon only teaches a polishing surface that rotates or is stationary, whereas several of the additional limitations further describe an orbital motion of the platen. Accordingly, Applicants submit that claim 1 and all claims depending therefrom, including claims 2-6 and 9-10, are allowable over Shendon and

therefore request that the Examiner reconsider and withdraw this rejection to claims 1-6 and 9-10.

Claims 12-13, 17-20, 24-28, and 32-33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 6,036,582, issued to Aizawa et al. on March 14, 2000 (hereinafter Aizawa et al.) in view of Shendon. Applicants traverse this rejection.

Aizawa et al. generally discloses a chemical mechanical polishing apparatus divided into a plurality of rooms cleaned to different degrees. Nowhere does either Aizawa et al. or Shendon teach or suggest any polishing apparatus or technique for removing material from a workpiece including low-k material as set forth in independent claims 12, 25, 26, 32, or 33. Several of the limitations of these claims as well as the respective dependent claims are directed to apparatus or process techniques designed to remove particular material from a surface of a workpiece including low-k material, as set forth in the preamble of the claims. Because neither Aizawa et al. nor Shendon teach or disclose apparatus or method for removing material from a workpiece that includes low-k material, no combination of the references renders obvious any of Applicants' claims directed to removing material from a workpiece including low-k material. Furthermore, as the Examiner acknowledges, no combination of the references teaches or suggests a "platen configured to move relative to a workpiece surface at about 0.8 to about 3.2 meters per second and a workpiece carrier configured to apply about 0.25 to about 2 psi to a workpiece in the direction of the platen" as set forth in claim 25; "orbiting the polishing surface at a speed about 500 to about orbits per minute" as set forth in claim 26, from which claims 27-28 depend; "workpiece and the platen move at a relative speed of about 0.8 to about 3.2 meters per second" as set forth in claim 32; or "moving the polishing surface and the workpiece relative to each other at a speed of about 0.8 to about 3.2 meters per second" as set forth in claim 33. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the 35 U.S.C. §103(a) rejection to claims 12-13, 17-20, 24-28, and 32-33.

Conclusion

In view of the foregoing remarks, Applicants believe that the pending claims are allowable over the cited art and Applicants therefore earnestly request allowance of all pending claims. The undersigned would welcome a telephone call at the telephone number listed below if such would advance prosecution of this application.

Respectfully submitted,

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